REPORT ON THE ADDITIONAL INVESTIGATION OF SUBSURFACE PETROLEUM CONTAMINATION

at

ARGENT LTD.

250 WOODSTOCK AVENUE
RUTLAND, VERMONT

(VTDEC Site # 91-1056)

APRIL 1994

Prepared by:

GRIFFIN INTERNATIONAL, INC.
2B Dorset Lane
Williston, Vermont 05495
(802) 879-7708

Griffin Project #: 7934388

GRIFFIN INTERNATIONAL INC

May 2, 1994

Mr. E. Matt Germon
State of Vermont
Department of Environmental Conservation
Hazardous Materials Management Division
103 South Main Street/West Office Building
Waterbury, Vermont 05671-0404

RE: Investigation of Subsurface Petroleum Contamination at 250 Woodstock Avenue in Rutland, VT (VTDEC Site #91-1056)

Dear Mr. Germon:

Enclosed please find the report on the additional investigation of subsurface petroleum contamination at the Argent Limited property at 250 Woodstock Avenue in Rutland, Vermont.

If you have any questions about the contents of this report, please do not hesitate to call.

Sincerely,

Kevin McGraw
Hydrogeologist

Enclosure

P.O. Box 943 • Williston, VT 05495 • 802-879-7708

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APPENDICES

I. INTRODUCTION

This report summarizes the second phase of investigation of subsurface petroleum contamination at a property owned by Argent Limited, located at 250 Woodstock Avenue in Rutland, Vermont. Included in the report are the findings from the air rotary drilling along with the results of groundwater sampling conducted on the property. This work has been conducted for Argent Limited by Griffin International, Inc. (Griffin).

II. BRIEF SITE HISTORY

A portion of the Argent Limited property previously consisted of a gas station and convenience store. The station had six underground storage tanks (USTs):

1 - 4,000-gallon gasoline
2 - 3,000-gallon gasoline
3 - 3,000-gallon gasoline
4 - 2,000-gallon diesel
5 - 550-gallon #2 heating oil
6 - 550-gallon kerosene

The former USTs at the site were located near the northeast corner of the intersection of Woodstock Avenue (Route 4) and Gleason Road (see Site Location Map, Appendix A). The tanks were removed on May 30, 1991. Marc Coleman of the Vermont Department of Environmental Conservation (VTDEC) was present on-site for an assessment during the removal of the tanks. During the assessment, Mr. Coleman determined that it was likely that the three gasoline tanks had leaked. Contaminated soil was observed in the tank pit, however, groundwater was not encountered. Approximately 120 cubic yards of contaminated soil were excavated and stockpiled on-site. The tanks were not replaced.

The immediate area surrounding the site consists mostly of retail stores and restaurants. An adjacent residence is located to the east of the subject property. Nearby residences and businesses are reportedly served entirely by the Town Water Supply. The only exception to this appears to be for the businesses and apartment residence at the subject property (250 and 252 Woodstock Avenue), which obtain their water from an on-site drinking well (see Site Map, Appendix A).

Prior to September 1991, the Sites Management Section (SMS) had received a report of potential petroleum vapor exposure in Building #2 which may have been due to the release of petroleum from the UST system. In response to the petroleum contamination detected in the tank pit and the potential problem of vapor exposure, the VTDEC requested further investigation.

Argent Limited contracted Griffin to perform an investigation which included the installation of two monitoring wells (MW-1 and MW-2). During the course of this

investigation, it was determined that residual petroleum contamination exists in the soils and groundwater in the vicinity of MW-2 which is located immediately downgradient from the former USTs. Only trace levels of contamination were detected in the groundwater sample collected from MW-1 which is located to the east and cross-gradient from the former USTs. In addition, the on-site supply well and surface water were sampled; no dissolved volatile organic compounds (VOCs) were detected in these samples. A complete description of this investigation is presented in Griffin's *"Report on the Investigation of Subsurface Petroleum Contamination"*.

III. SUBSURFACE INVESTIGATION

On March 23, 1994, two monitoring wells were installed using an air rotary drill rig. These monitoring wells, designated MW-3 and MW-4, were installed to help define the degree and extent of petroleum contamination in the presumed downgradient direction from the former USTs. MW-3 was installed to determine the northerly extent of on-site contamination; MW-4 was installed between the likely source of on-site contamination and the supply well east of Building #2 to assess the extent of contaminant migration in this direction.

Drill cuttings were collected from the borehole for each well and were screened for VOCs using an HNU (Model PI-101) photoionization detector (PID). Soil characteristics and contaminant concentrations were recorded in detailed well logs. The locations of the new wells are shown on the Site Map in Appendix A.

In the borings for both monitoring wells, silty sands were predominant. Some gravel and cobbles were also encountered. In the borings for MW-3 and MW-4, groundwater was encountered at approximately 12 and 13 feet below grade, respectively. However, the water table rose approximately five feet after completion of the wells, indicating that this aquifer is at least partially confined. Petroleum contamination was not detected in either boring using the PID.

The monitoring wells were constructed with two-inch diameter, Schedule 40 PVC riser and 0.010" slotted screen. The screened portion of MW-3 and MW-4 is from 7 to 17 feet below grade. A silica sand pack was placed around the screened portion of each well to two feet above the top of the screen. A bentonite seal was placed in the annulus immediately above the sand pack from three to five feet below grade. Native soil was used as backfill for the remainder of the annular space up to one foot below grade. To complete the construction of the well, a road box was set in concrete at grade level. In addition, locking well caps and locks were placed on both monitoring wells. The boring logs and well construction details for these wells are included in Appendix B.

IV. WATER LEVELS AND WATER QUALITY

A. Water Table Elevations

Water table elevation measurements were collected from all four monitoring wells prior to sampling on March 30, 1994. In addition, the two new wells were surveyed in azimuth and elevation. Water level data are presented in Appendix C.

From December 1, 1993, to March 30, 1994, the water level increased in MW-1 and MW-2 by 3.45 feet and 2.80 feet, respectively. Water table elevations have been plotted and contoured to illustrate the estimated gradient and direction of groundwater flow beneath the site (see Groundwater Contour Map, Appendix A). According to these data, it appears that on-site groundwater flow is to the north at a hydraulic gradient of 2.8%.

B. Water Quality

On March 30, 1994, Griffin collected water samples at the site from MW-1, MW-2, MW-3 and MW-4. Samples were analyzed for petroleum compounds by EPA Method 602. The analytical results have been plotted to show the distribution of dissolved contamination across the site (see Contaminant Concentration Map, Appendix A).

Petroleum compounds were not detected in the water samples from MW-1, MW-3 and MW-4. Benzene, toluene, ethylbenzene and xylenes (BTEX) were detected in the sample from MW-2. Benzene was detected at 16,700 parts per billion (ppb), toluene at 22,700 ppb, ethylbenzene at 1,410 ppb and xylenes at 9,930 ppb. The levels of benzene, toluene and ethylbenzene exceed the Vermont drinking water standards. A groundwater quality summary for this sampling event is presented in Appendix D.

The trip blank, equipment blank and duplicate sample results indicate that proper quality assurance and quality control was maintained during the sampling and analysis. The laboratory analytical report is also included in Appendix D.

V. CONCLUSIONS

Based on the investigations at this site to date, Griffin has reached the following conclusions:

1. Based on the water table elevations in the four monitoring wells, on-site groundwater flow is estimated to be to the north at a hydraulic gradient of 2.8%.

2. High levels of dissolved BTEX continue to exist in groundwater immediately downgradient from the former on-site USTs. However, dissolved groundwater contamination was not detected in the samples from any of the surrounding

monitoring wells, indicating that the extent of contamination in the direction of these wells has been more clearly defined.

3. The greatest potential risks posed by the on-site contamination appear to be (1) to the occupants of Building #2 if petroleum vapors enter the basement and (2) the on-site drinking well.

   During a Griffin site visit on December 1, 1993, air in both on-site buildings was screened for the presence of VOCs. No VOCs were detected. In addition, during the course of this investigation, no VOC contamination was detected in the soils from the borings for MW-3 and MW-4; furthermore, dissolved petroleum contamination was not detected in the groundwater from MW-3 and MW-4. Therefore, at this time, Griffin believes that the risk to Building #2 is very low.

   In the previous investigation, dissolved contamination was not detected in the sample from the supply well. In addition, the lack of contamination detected in the soils and groundwater in the vicinity of MW-3 (located directly between the source of on-site contamination and the supply well), suggests that the potential risk to this receptor is low.

VI. RECOMMENDATIONS

Based on the above conclusions, Griffin makes the following recommendations:

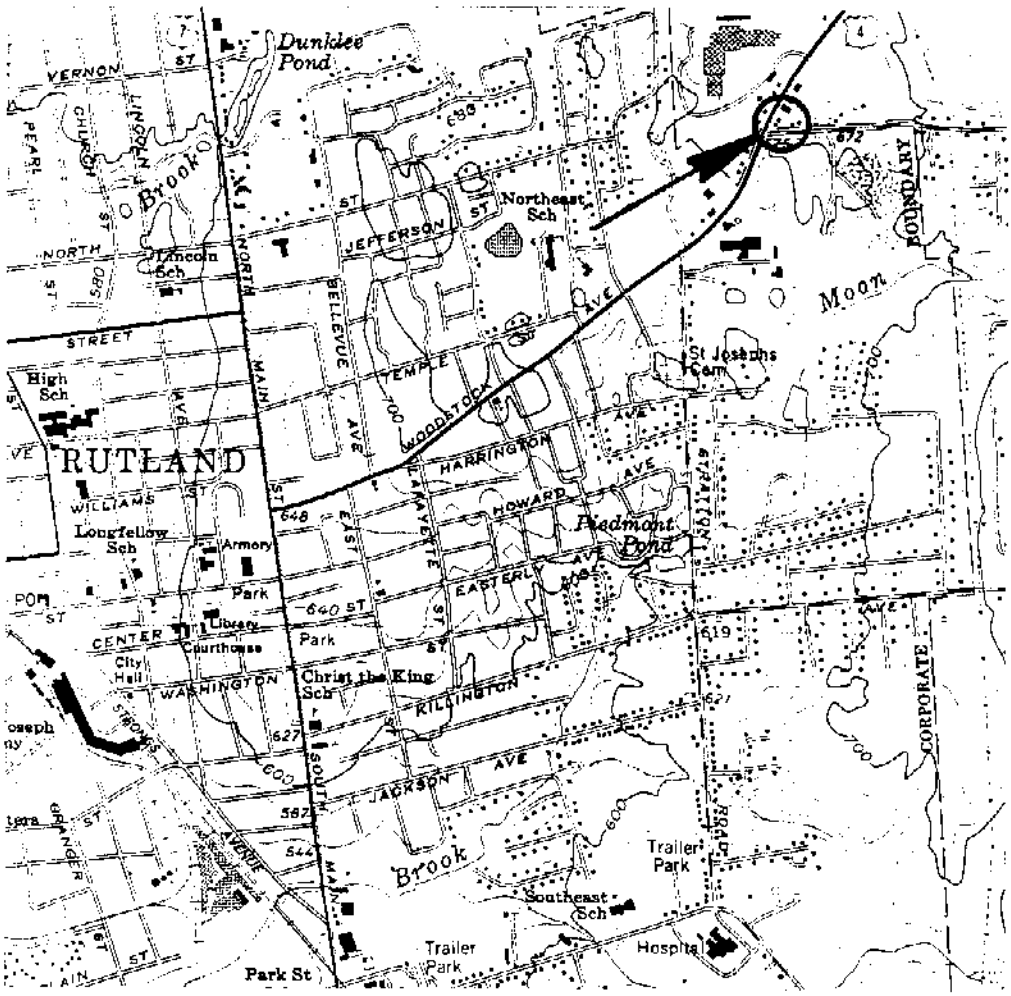
1. Since the risk to potential receptors is deemed to be low at this time, Griffin does not recommend any further subsurface investigation at this time. However, Griffin does recommend quarterly sampling of the four on-site monitoring wells to monitor any changes in contamination levels. Samples should be analyzed for petroleum compounds by EPA Method 602. After one year, the frequency of monitoring at this site should be re-evaluated if additional sampling and analysis is determined to be necessary at that time.

2. In addition, Griffin recommends that the on-site supply well be sampled semi-annually. The supply well sample should also be analyzed by EPA Method 602.

APPENDIX A

Maps

Site Location Map
Site Map
Groundwater Contour Map
Contaminant Concentration Map



N

JOB #: 7934388
SOURCE: RUTLAND QUADRANGLE PHOTOREVISED 1988

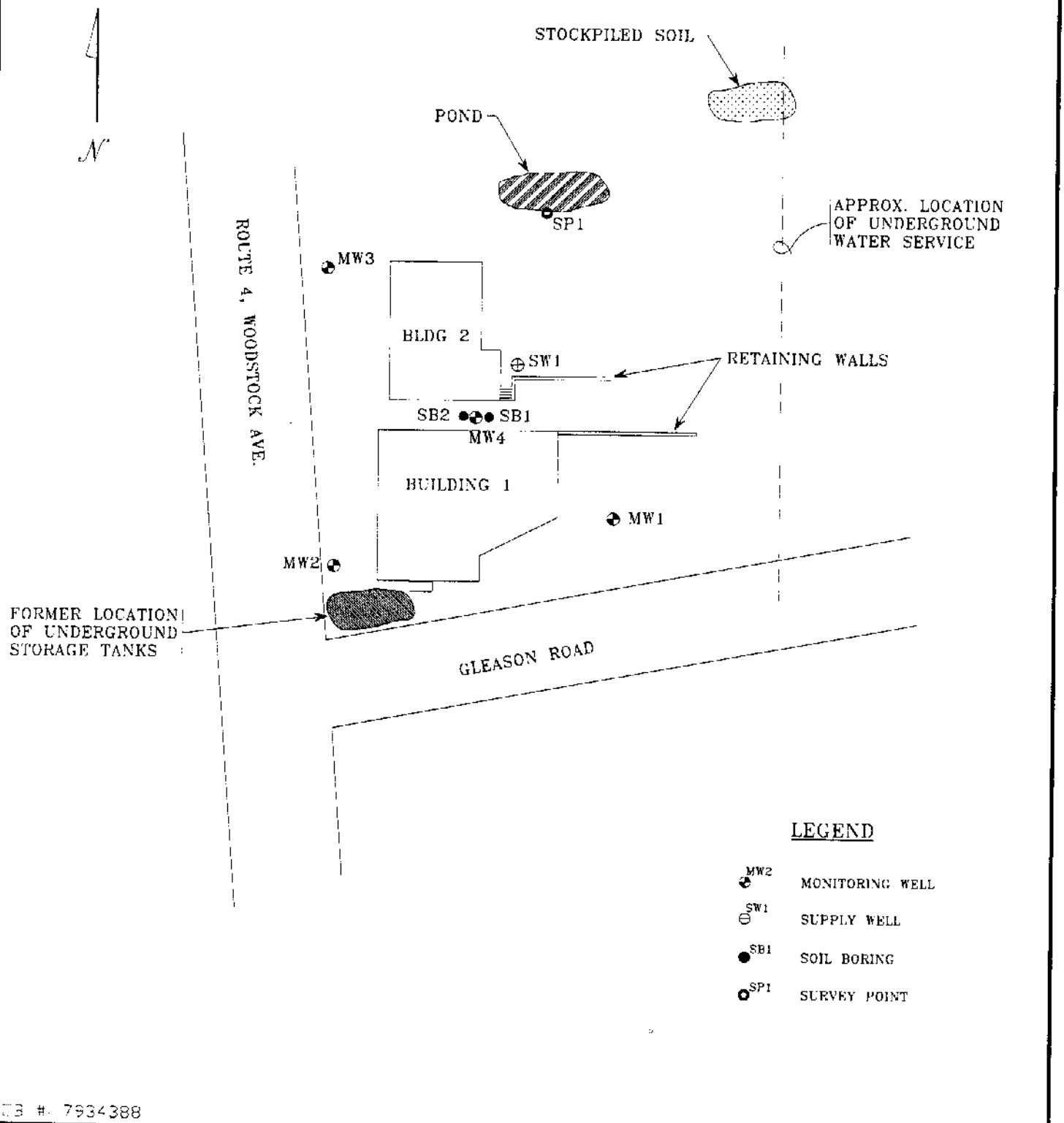
GRIFFIN INTERNATIONAL

ARGENT LIMITED

RUTLAND, VERMONT

SITE LOCATION MAP

DATE 12/14/93	DWG #	SCALE 1:24000	DRN. SB	APP KM



JOB #: 7934388

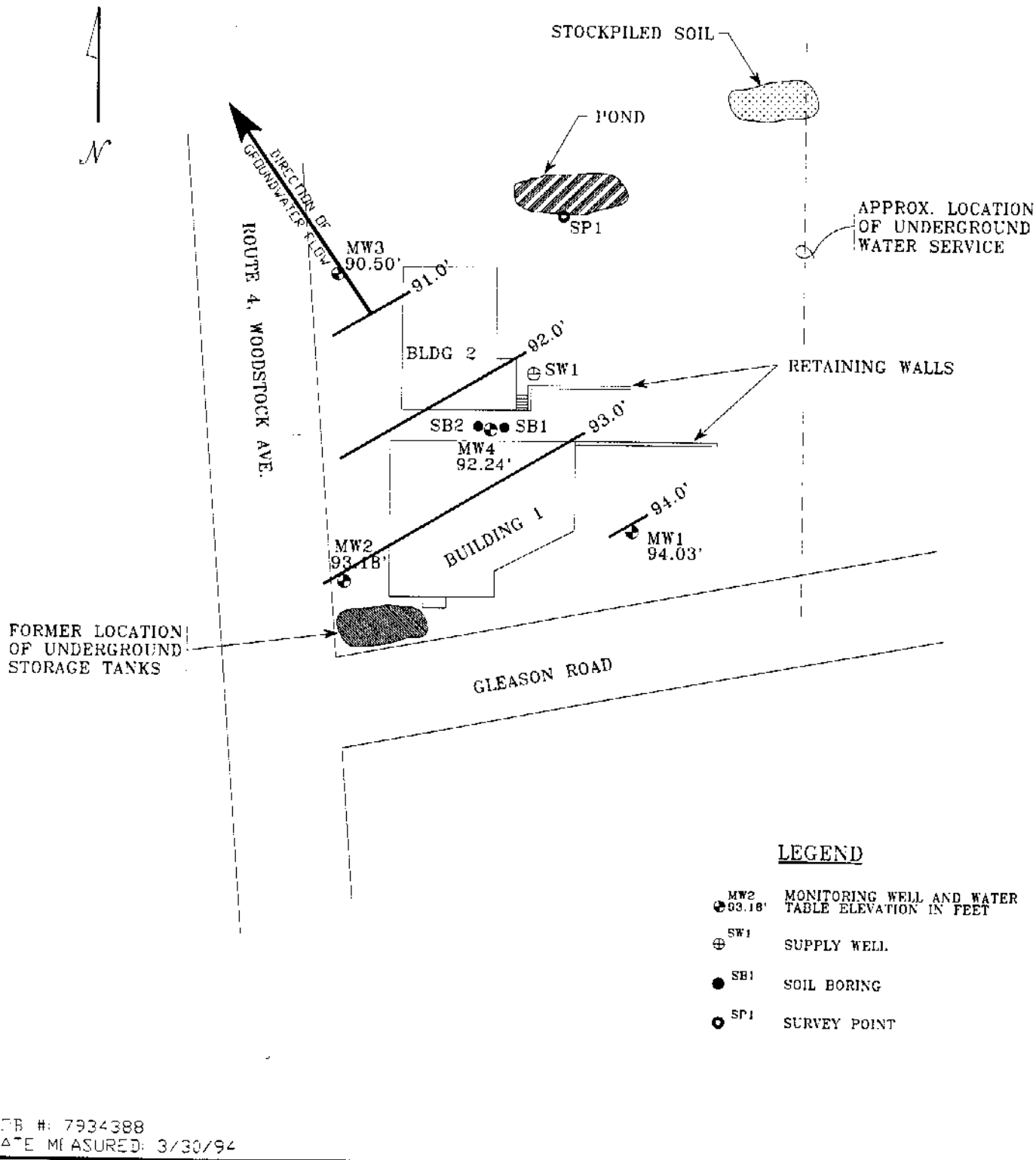
GRIFFIN INTERNATIONAL INC.

ARGENT LIMITED

RUTLAND, VERMONT

SITE MAP

DATE 12/14/93	DWG.# 2	SCALE: 1"=30'	DRN SB	APP. KM



JOB #: 7934388
DATE MEASURED: 3/30/94

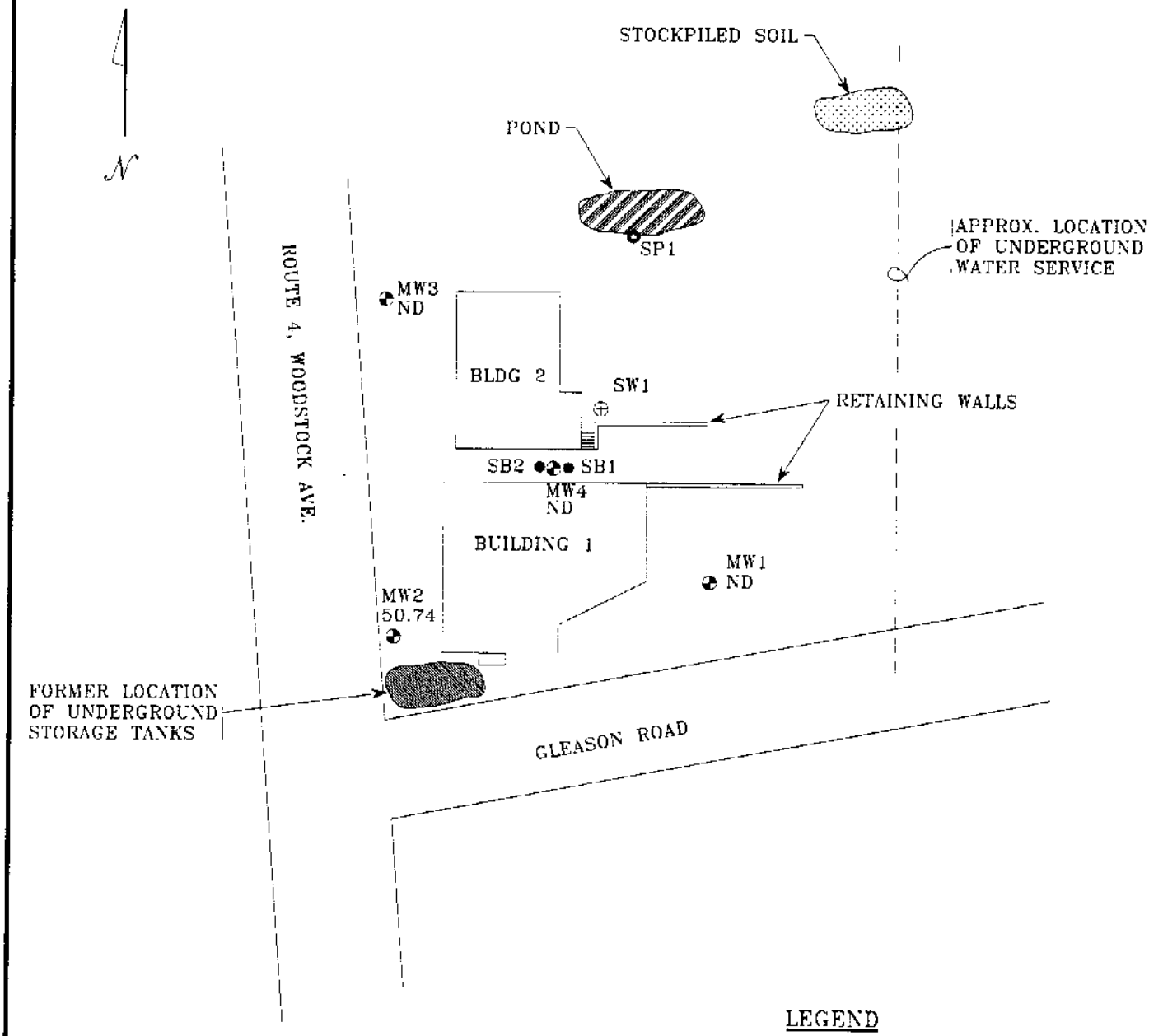
GRIFFIN INTERNATIONAL INC

ARGENT LIMITED

RUTLAND, VERMONT

GROUNDWATER CONTOUR MAP

DATE: 4/13/94	DWG #: 3	SCALE 1"=50'	DRN SB	APP: KM



LEGEND

MW2 50.74	MONITORING WELL & TOTAL BTEX + MTBE CONCENTRATION IN GROUNDWATER, (PPM)
SW1	SUPPLY WELL
SB1	SOIL BORING
SP1	SURVEY POINT

JOB # 7934388
SAMPLE DATE: 3/30/94

GRIFFIN INTERNATIONAL INC

ARGENT LIMITED

RUTLAND, VERMONT

CONTAMINANT CONCENTRATION MAP

DATE: 4/13/94	DWG #: 4	SCALE: 1"=50'	DRN. SB	APP. KV

APPENDIX B

Well Logs

WELL NUMBER MW3

PROJECT ARGENT LIMITED

LOCATION RUTLAND, VERMONT

DATE DRILLED 3/23/94 TOTAL DEPTH OF HOLE 17.0'

DIAMETER 6.0"

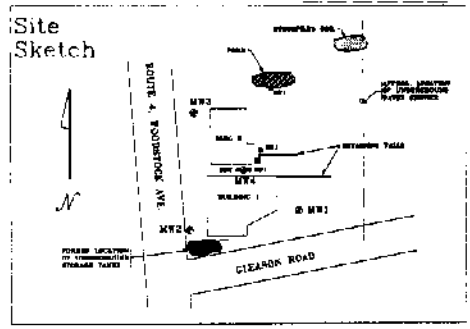
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 6.5' TYPE SCH 40 PVC

DRILLING CO. FROST DRILLING METHOD AIR ROTARY

DRILLER R. FROST LOG BY K. MCGRAW

Site Sketch



GRIFFIN INTERNATIONAL, INC.

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX LOCKING WELL CAP		Pavement	0
1		CONCRETE			1
2		NATIVE BACKFILL			2
3					3
4		BENTONITE			4
5			4.0'–6.0' 0 ppm	Dark brown fine to coarse SAND, some gravel, trace silt, dry, no odor	5
6		WELL RISER			6
7					7
8					8
9		SAND PACK			9
10			9.0'–11.0' 0 ppm	Brown silty fine SAND, moist, no odor	10
11					11
12		WELL SCREEN		12.0' WATER TABLE ▼	12
13					13
14					14
15			14.0'–16.0' 0 ppm	Olive brown fine to medium SAND, little silt, some gravel, saturated, no odor	15
16		BOTTOM CAP			16
17					17
18		UNDISTURBED NATIVE SOIL		BASE OF WELL AT 17' END OF EXPLORATION AT 17.0'	18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

WELL NUMBER MW4

PROJECT ARGENT LIMITED

LOCATION RUTLAND, VERMONT

DATE DRILLED 3/23/94 TOTAL DEPTH OF HOLE 17.0'

DIAMETER 6.0"

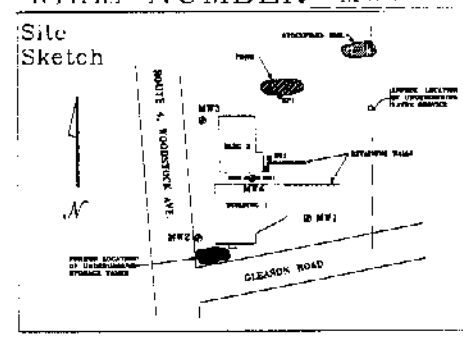
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 6.5' TYPE SCH. 40 PVC

DRILLING CO. FROST DRILLING METHOD AIR ROTARY

DRILLER R. FROST LOG BY K. MCGRAW

Site Sketch



GRIFFIN INTERNATIONAL, INC.

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX LOCKING WELL CAP			0
1		CONCRETE	0'-0.3'	Pavement	1
2		NATIVE BACKFILL			2
3					3
4		BENTONITE			4
5			4.0' 6.0' 0 ppm	Brown silty fine to medium SAND, some gravel, wet, no odor. At 5.0'- MARBLE BOULDER	5
6		WELL RISER			6
7					7
8					8
9		SAND PACK			9
10			9.0'-11.0' 0 ppm	Brown silty fine SAND and GRAVEL, some cobbles, moist, no odor	10
11					11
12		WELL SCREEN			12
13				13.0' WATER TABLE	13
14					14
15					15
16		BOTTOM CAP			16
17				BASE OF WELL AT 17'	17
18		UNDISTURBED NATIVE SOIL		END OF EXPLORATION AT 17.0'	18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

APPENDIX C

Water Level Data

Liquid Level Monitoring Data
Argent Limited, Rutland

3/30/94

Well I.D.	Well Depth	Top of Casing/Pond Elevation	Depth To Product	Depth To Water	Product Thickness	Specific Gravity Of Product	Water Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-1	15	98.90		4.87					94.03
MW-2	17	100.00		6.82					93.18
MW-3	17	97.57		7.07					90.50
MW-4	17.00	98.95		6.71					92.24

All Values Reported in Feet
Top-of-Casing Elevations Measured in Feet Relative to MW-2 set at 100.00'

APPENDIX D

Groundwater Quality Summary

Laboratory Report

Groundwater Quality Summary
Argent Limited
Rutland, Vermont

MW-1

PARAMETER	Sample Date				Vermont Drinking Water Standards
	12/1/93	3/30/94			
Benzene	ND	ND			5.0*
Chlorobenzene	ND	ND			100*
1,2-DCB	ND	ND			600*
1,3-DCB	ND	ND			600**
1,4-DCB	ND	ND			75*
Ethylbenzene	ND	ND			700*
Toluene	TBQ	ND			1,000*
Xylenes	1.9	ND			10,000*
Total BTEX	1.9	ND			-
MTBE	ND	ND			40**
BTEX+MTBE	1.9	ND			-

MW-2

PARAMETER	Sample Date				Vermont Drinking Water Standards
	12/1/93	3/30/94			
Benzene	3,110.	16,700.			5.0*
Chlorobenzene	ND	ND			100*
1,2-DCB	ND	ND			600*
1,3-DCB	ND	ND			600**
1,4-DCB	ND	ND			75*
Ethylbenzene	355.	1,410.			700*
Toluene	5,160.	22,700.			1,000*
Xylenes	1,840.	9,930.			10,000*
Total BTEX	10,465.	50,740.			-
MTBE	1,410.	ND			40**
BTEX+MTBE	11,875.	50,740.			-

All Values Reported in ug/L (ppb)
* - Maximum Contaminant Level (MCL)
** - Vermont Health Advisory Level

ND - None Detected
TBQ - Trace Below Quantitation Limit

Groundwater Quality Summary
Argent Limited
Rutland, Vermont

MW-3

PARAMETER	Sample Date 3/30/94				Vermont Drinking Water Standards
Benzene	ND				5.0*
Chlorobenzene	ND				100*
1,2-DCB	ND				600*
1,3-DCB	ND				600**
1,4-DCB	ND				75*
Ethylbenzene	ND				700*
Toluene	ND				1,000*
Xylenes	ND				10,000*
Total BTEX	ND				-
MTBE	ND				40**
BTEX+MTBE	ND				-

MW-4

PARAMETER	Sample Date 3/30/94				Vermont Drinking Water Standards
Benzene	ND				5.0*
Chlorobenzene	ND				100*
1,2-DCB	ND				600*
1,3-DCB	ND				600**
1,4-DCB	ND				75*
Ethylbenzene	ND				700*
Toluene	ND				1,000*
Xylenes	ND				10,000*
Total BTEX	ND				-
MTBE	ND				40**
BTEX+MTBE	ND				-

Quality Assurance/Quality Control Samples

PARAMETER	3/30/94 Trip Blank	Equipment Blank	Duplicate of MW-2
Benzene	ND	ND	16,500.
Chlorobenzene	ND	ND	ND
1,2-DCB	ND	ND	ND
1,3-DCB	ND	ND	ND
1,4-DCB	ND	ND	ND
Ethylbenzene	ND	ND	1,380.
Toluene	ND	ND	22,400.
Xylenes	ND	ND	9,710
Total BTEX	ND	ND	49,990
MTBE	ND	ND	ND
BTEX+MTBE	ND	ND	49,990

All Values Reported in ug/L (ppb) ND - None Detected

* - Maximum Contaminant Level (MCL)

** - Vermont Health Advisory Level

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: Argent Limited
REPORT DATE: April 7, 1994
DATE SAMPLED: March 30, 1994

PROJECT CODE: GIAL1164
REF.#: 57,703 - 57,709

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Chain of custody indicated samples were preserved with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times. All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method. Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8020--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Argent Limited
REPORT DATE: April 7, 1994
DATE SAMPLED: March 30, 1994
DATE RECEIVED: March 31, 1994
ANALYSIS DATE: April 5, 1994

PROJECT CODE: GIAL1164
REF.#: 57,703
STATION: Trip Blank
TIME SAMPLED: 8:05
SAMPLER: Kevin McGraw

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND[1]
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 104%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8020--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Argent Limited
REPORT DATE: April 7, 1994
DATE SAMPLED: March 30, 1994
DATE RECEIVED: March 31, 1994
ANALYSIS DATE: April 5, 1994

PROJECT CODE: GIAL1164
REF.#: 57,704
STATION: MW-1
TIME SAMPLED: 12:20
SAMPLER: Kevin McGraw

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND[1]
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 102%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 1

NOTES:
1 None detected

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8020--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Argent Limited
REPORT DATE: April 7, 1994
DATE SAMPLED: March 30, 1994
DATE RECEIVED: March 31, 1994
ANALYSIS DATE: April 6, 1994

PROJECT CODE: GIAL1164
REF.#: 57,705
STATION: MW-2
TIME SAMPLED: 13:45
SAMPLER: Kevin McGraw

Parameter	Detection Limit (ug/L)[1]	Concentration (ug/L)
Benzene	200	16,700.
Chlorobenzene	200	ND[2]
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	200	1,410.
Toluene	200	22,700.
Xylenes	200	9,930.
MTBE	2000	ND

Bromobenzene Surrogate Recovery: 94%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 10

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 0.5% dilution.
2 None detected

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8020--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Argent Limited
REPORT DATE: April 7, 1994
DATE SAMPLED: March 30, 1994
DATE RECEIVED: March 31, 1994
ANALYSIS DATE: April 6, 1994

PROJECT CODE: GIAL1164
REF.#: 57,706
STATION: MW-3
TIME SAMPLED: 12:45
SAMPLER: Kevin McGraw

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND[1]
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 91%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:
1 None detected

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8020--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Argent Limited
REPORT DATE: April 7, 1994
DATE SAMPLED: March 30, 1994
DATE RECEIVED: March 31, 1994
ANALYSIS DATE: April 5, 1994

PROJECT CODE: GIAL1164
REF.#: 57,707
STATION: MW-4
TIME SAMPLED: 13:00
SAMPLER: Kevin McGraw

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND[1]
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 102%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8020--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Argent Limited
REPORT DATE: April 7, 1994
DATE SAMPLED: March 30, 1994
DATE RECEIVED: March 31, 1994
ANALYSIS DATE: April 6, 1994

PROJECT CODE: GIAL1164
REF.#: 57,708
STATION: Duplicate
TIME SAMPLED: 13:45
SAMPLER: Kevin McGraw

Parameter	Detection Limit (ug/L)[1]	Concentration (ug/L)
Benzene	200	16,500.
Chlorobenzene	200	ND[2]
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	200	1,380.
Toluene	200	22,400.
Xylenes	200	9,710.
MTBE	2000	ND

Bromobenzene Surrogate Recovery: 95%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 10

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 0.5% dilution.

2 None detected

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8020--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Argent Limited
REPORT DATE: April 7, 1994
DATE SAMPLED: March 30, 1994
DATE RECEIVED: March 31, 1994
ANALYSIS DATE: April 5, 1994

PROJECT CODE: GIAL1164
REF.#: 57,709
STATION: Equipment Blank
TIME SAMPLED: 13:55
SAMPLER: Kevin McGraw

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND[1]
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 100%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:
1 None detected

ENDYNE, INC.

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EPA METHOD 8020 LABORATORY REPORT

MATRIX SPIKE AND DUPLICATE LABORATORY CONTROL DATA

CLIENT: Griffin International
PROJECT NAME: Argent Limited
REPORT DATE: April 7, 1994
DATE SAMPLED: March 30, 1994
DATE RECEIVED: March 31, 1994
ANALYSIS DATE: April 5, 1994

PROJECT CODE: GIAL1164
REF.#: 57,704
STATION: MW-1
TIME SAMPLED: 12:20
SAMPLER: Kevin McGraw

Parameter	Sample(ug/L)	Spike(ug/L)	Dup1(ug/L)	Dup2(ug/L)	Avg % Rec
Benzene	ND[1]	10	10.0	9.5	97%
Toluene	ND	10	10.3	9.6	99%
Ethylbenzene	ND	10	10.6	9.9	103%
Xylenes	ND	30	31.5	29.5	102%

NOTES:
1 None detected

ENDYNE, INC.

32 James Brown Drive
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09890

CHAIN-OF-CUSTODY RECORD

Job # 7934588

Project Name: Argent Limited Site Location: Rutland, VT	Reporting Address: Griffin	Billing Address:
Endyne Project Number: GAL1164	Company: Griffin Contact Name/Phone #: Kevin McCraw 779-7705	Sampler Name: Kevin McCraw Phone #:

Lab #	Sample Location	Matrix	GRAB	COMP	Date/Time 3/30/94	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
5[illegible]	Trip Blank	H_2O	✓		8:05	2	40mL		8020	HCl	
[illegible]	MW-1	"	✓		12:20	"	"		"	"	
[illegible]	MW-2	"	✓		13:45	"	"	HOT	"	"	
[illegible]	MW-3	"	✓		12:45	"	"		"	"	
[illegible]	MW-4	"	✓		13:00	"	"		"	"	
[illegible]	Duplicate	"	✓		13:45	"	"	HOT	"	"	
[illegible]	Equipment Blank	"	✓		13:55	"	"		"	"	

Relinquished by: Signature: Kevin D.S. McCraw	Received by: Signature: JM Watrous	Date/Time: 3/31/94 8:25 AM
Relinquished by: Signature	Received by: Signature	Date/Time

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010 8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD_5	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										